

GDT 11

A. Scope

For a complete list of GDTs, see the Table of Contents.

Use this test method to determine the asphalt content by dehydrating and distilling cutback asphalt emulsion.

B. Apparatus

The apparatus consists of the following:

1. Beaker: Use a 1 quart (1 L) copper beaker.
2. Flask: Use a 17 oz (500 ml) side-neck distillation flask.
3. Containers: Use 8 oz (237 ml) ointment cans (OC-11).

C. Sample Size and Preparation

No sample preparation is needed.

D. Procedures

Dehydrate the material by open evaporation as follows:

1. Weigh 0.44 lb (200 g) of the material into the tared copper beaker.
2. While stirring constantly, heat to a temperature of 350 °F (176.7 °C) (reach the temperature within 15 to 20 minutes).
3. Weigh the residue.
4. Weigh 0.33 lb (150 g) of the dehydrated material into the tared flask and distill in accordance with the “Method of Test for Distillation of Cutback Asphaltic Products,” AASHTO T 78.
5. Handle the residue from the distillation as directed in the AASHTO method, but use a tared, 6 oz (177.4 ml) container to collect the residue.
6. Weigh the residue in the tared container.
7. Weigh the residue in the distillation flask after distilling.
8. When the dehydration does not yield enough residue for a 0.33 lb (150 g) distillation charge, or when residue forms excessively in the distillation flask, you may use a charge of approximately 0.28 lb (125 g).

E. Calculations

Calculate the asphalt content as follows:

$$\text{Asphalt content, \% by weight} = \frac{A(B+C)}{D}$$

where:

A = weight in grams of the residue in the beaker after open evaporation to 350 °F (176.7 °C)

B = weight in grams of the residue in the 6 oz (177.4 ml) container

C = weight in grams of the residue in distillation flask

D = weight in grams of residue from open evaporation taken from distillation test. This weight is normally 0.33 lb (150 g).

F. Report

1. Report the asphalt content, percent by weight on Form 503.
2. Send the completed original form to the Office of Materials and Research in Forest Park.
3. Send copies of the form to the Bituminous Control Unit and the Area Engineer.